Data Taking Statistics
Week of 2003 February 10-16

		Normalizable Luminosity (nb-1)				Hours			Norm. Events (k)		Efficiency	
Date	Del	Util	Live	Rec	Physics	Store	Util	Rec	Rec	Physics	Rec	Phys
10-Feb-03	9.25	7.70	5.51	5.49	5.49	0.6	0.5	0.2	27	27	0.594	0.594
11-Feb-03	166.59	164.91	144.25	144.19	144.19	3.0	3.0	2.8	369	369	0.866	0.866
12-Feb-03	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0	0	0.000	0.000
13-Feb-03	682.94	582.84	443.99	442.97	442.97	13.3	11.6	9.7	1248	1248	0.649	0.649
14-Feb-03	137.62	136.19	123.07	123.05	123.05	2.2	2.2	2.2	373	373	0.894	0.894
15-Feb-03	1055.63	1039.92	893.16	886.28	886.28	21.7	21.4	20.1	2977	2977	0.840	0.840
16-Feb-03	711.42	697.76	631.47	631.03	631.03	15.8	15.5	14.8	2187	2187	0.887	0.887
	2763.5	2629.3	2241.5	2233.0	2233.0	56.6	54.2	49.8	7181	7181	0.808	0.808

- Dedicated some luminosity to studies
  - Test of New Muon PDT Code
    - Introduced new hardware and firmware during shutdown
    - Verify that readout, rejection and integrity are fine
    - Preliminary results show no new problems
  - L2 Muon Efficiency
    - Introduced new L2 Muon code and look-up tables
    - Checked that the rejection & readout were as expected

Full Detector Readout

- Physics: Recorded Lumi of 2.2 pb^{-1} or 80.8% of Delivered Lumi

➔Recorded 7.2 million Physics Quality Events

Delivered Luminosity Losses

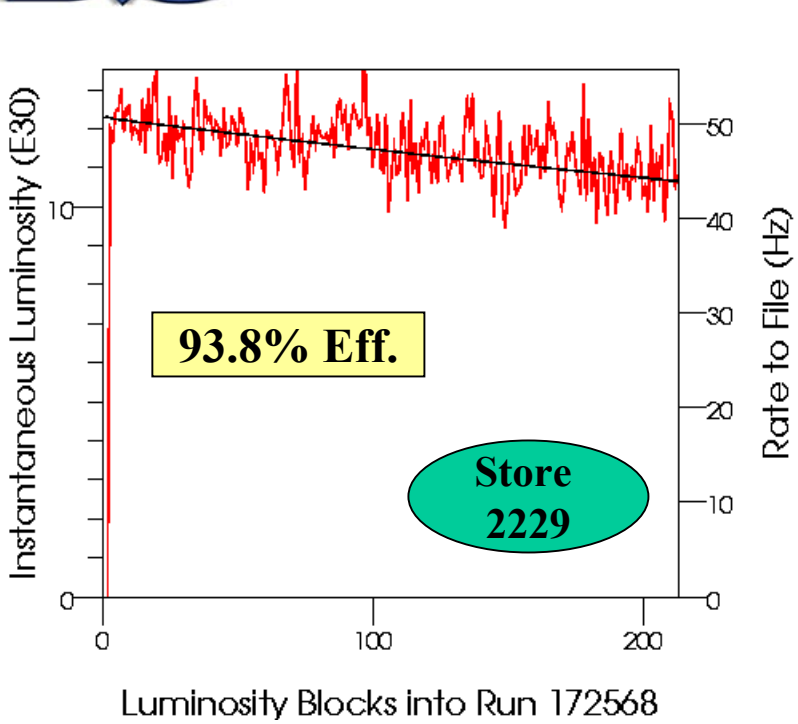
Major Sources of Downtime: Not recording during a store *(>0.25 hrs)*

13-Feb-03	4:34	0.58	L1 CAL Power Supply Failure (Begin Store 2213)
13-Feb-03	8:53	1.38	Muon Scint. HV PS Failure & L2 Muon Special Run
13-Feb-03	17:08	0.70	New Muon PDT Code Study

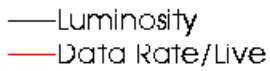
Other Losses

- 0.4 hrs: 14:55 Wed Feb 13th - Muon Readout Crate
  - Our online monitoring was not up to pre-shutdown quality…yet!
- 1.0 hrs: Sat Feb 15th - CFT+PS Readout Crates
  - Happened twice mid-store 2232. Problem resolved by power cycling readout crates. We took two inefficient runs during these periods.
- 0.5 hrs: Sun Feb 16th - SMT Readout Crate
  - Required expert help to disable a problematic HDI
- ~0.5 hr: 25 Run transitions (~1 minute/per)
- ~1.0 hr: 13 Begin or End Store transitions (~5 minutes/per)
- ~2-3 hrs: Average 4-6% FEB during physics data taking
  - This has increased since pre-shutdown. We are working on understanding how we can reduce the transfer times between the SVXII & the VRBs - the main source of L1 FEB in the Silicon, Tracker & Preshower readout crates.

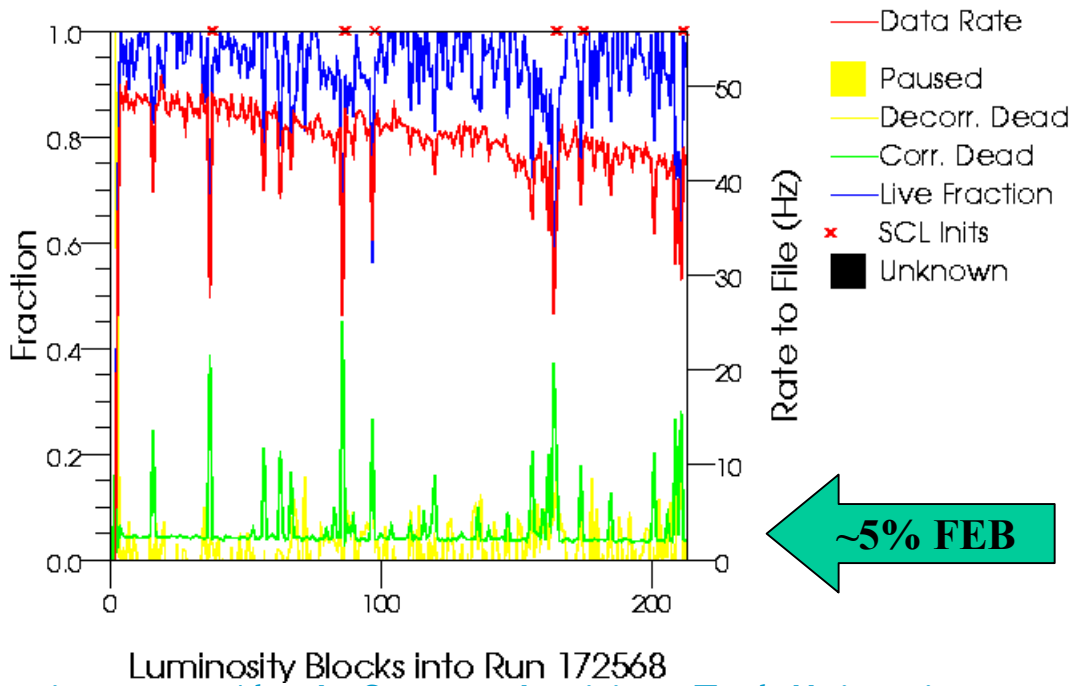
Data Taking Stability



- 557k triggered events
- 3.5 hours
- Avg 44.4 Hz to tape
- Rec Lumi = 135 pb^{-1}
- Zero pauses

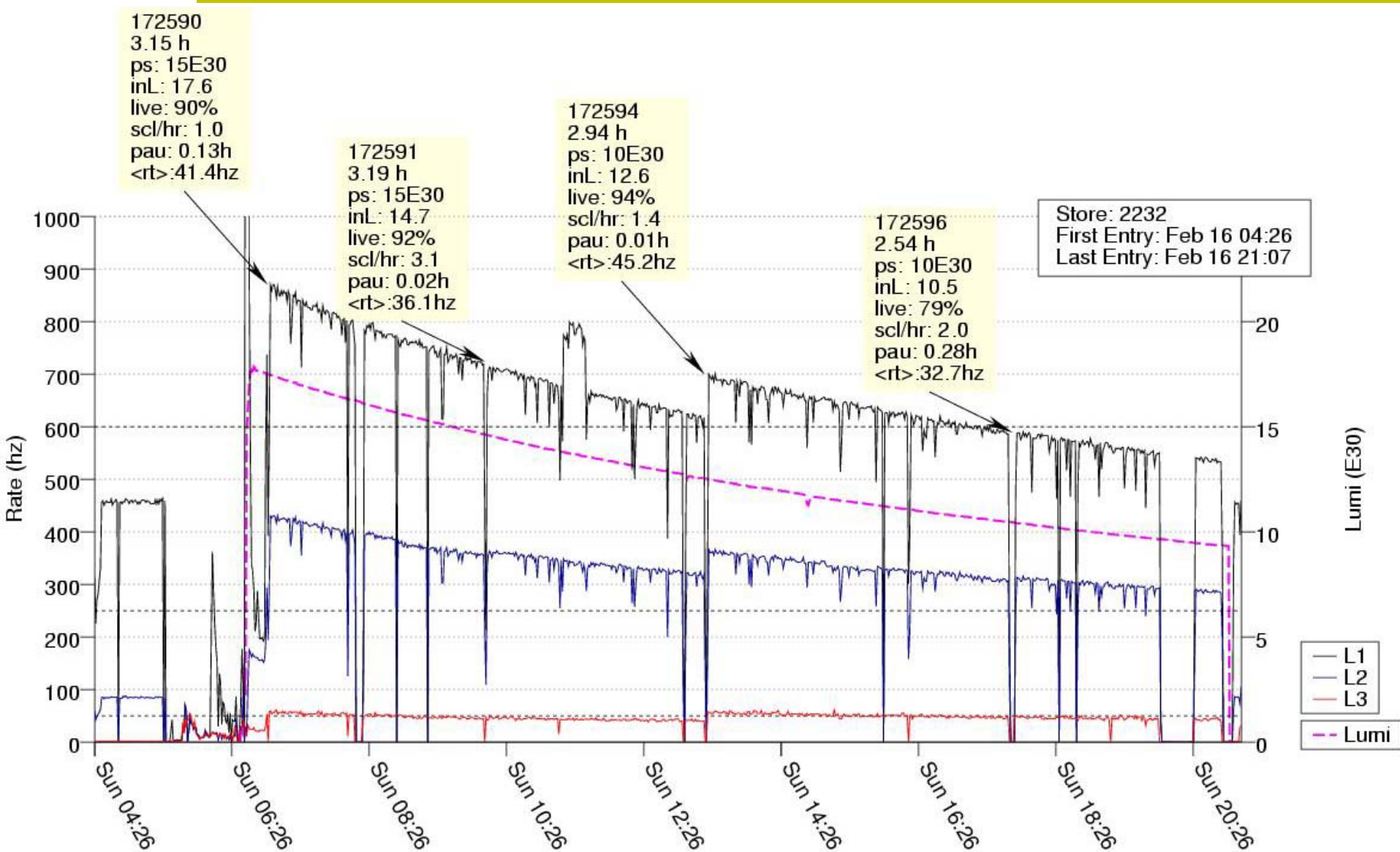


- Peak rates over stores 2213, 2229, 2231, 2232, 2234:
  - L1 ~ 0.9 kHz
  - L2 ~ 0.45 kHz
  - L3 ~ 60 Hz
- Running at ~90% efficiency for most runs



Store 2232

Sun Feb 16th from 06:53



Controlled Accesses & Luminosity

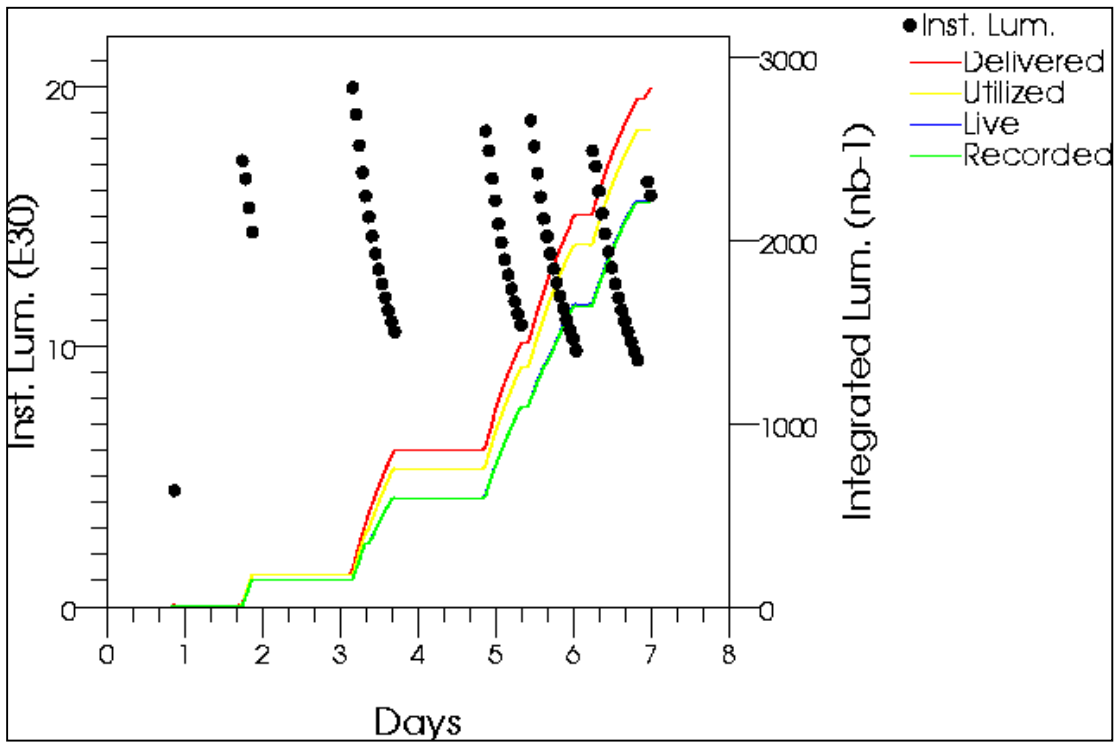
07:00 12 Feb – 5 hrs

- Drip Detector Trips in PC16
  - Frequent trips on Feb 10th & 11th were due to a short. Metal prongs on back of detector strip were making contact with rack frame through vibrations
    - Isolated strip & rack
    - No water was found
- Central Muon Scintillator Front-End Readout Crate
  - Replaced blown fuse
- Debugging & Commissioning
  - CFT+PS, L1 Muon, L1 CTT & FPD

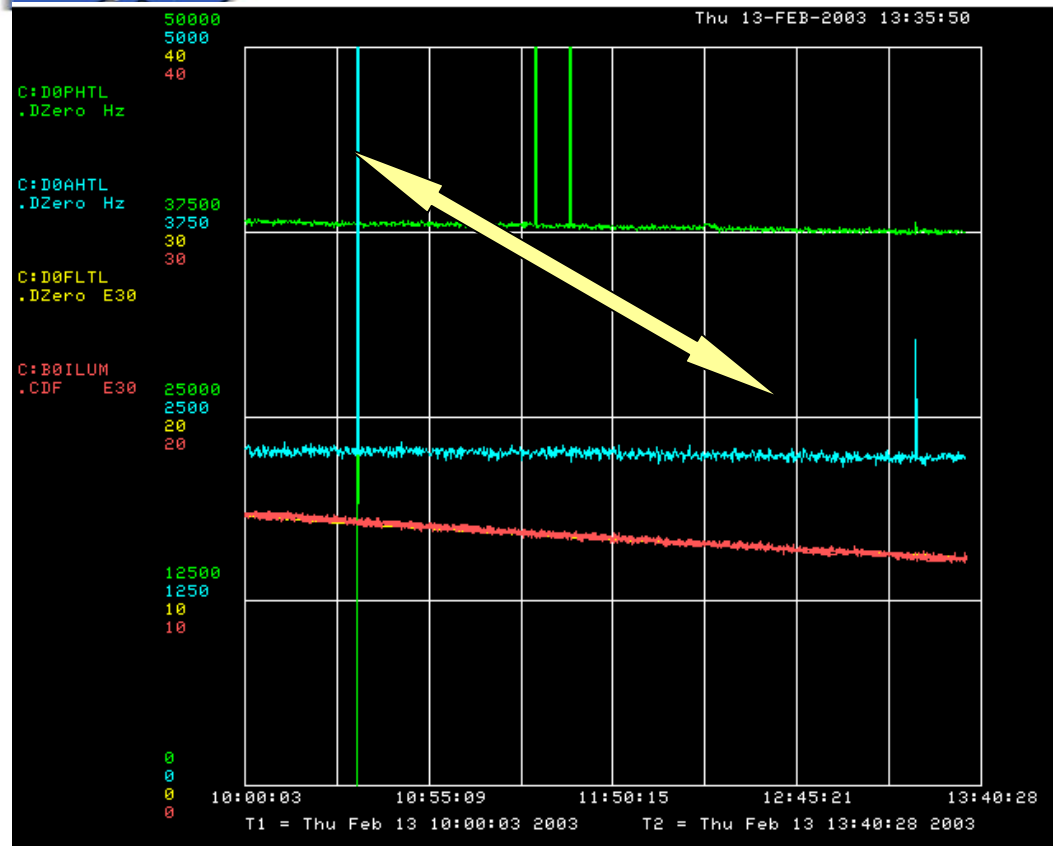
21:30 13 Feb – 0.5 hrs

- Replaced L1 Muon trigger card
- Power cycled supply to a Front-End Scintillator crate

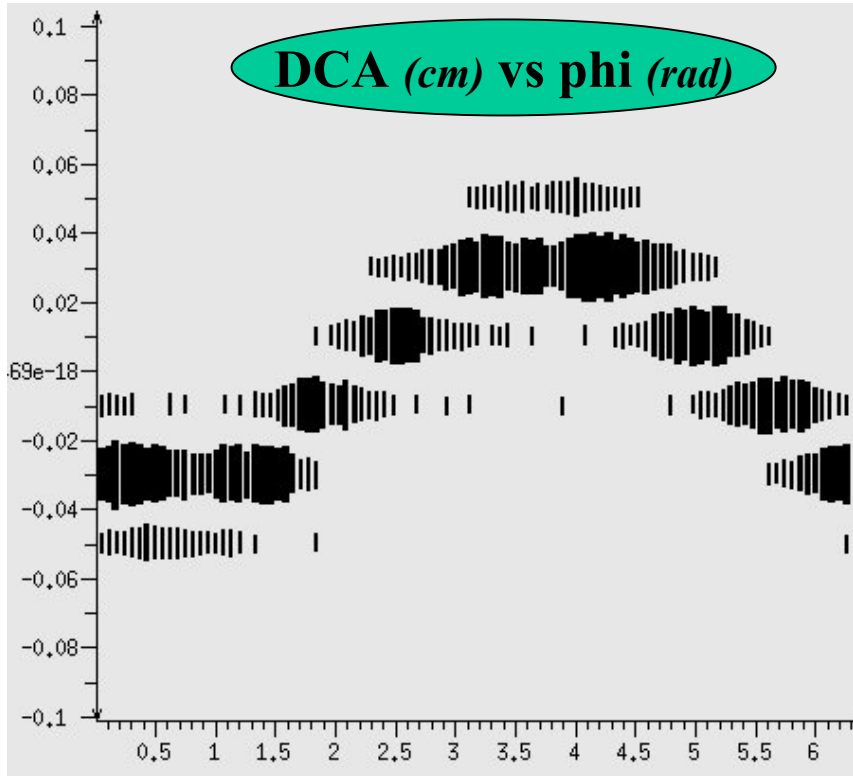
- D0 Luminosity
  - Detector configuration is the same as pre-shutdown. No electronics, HV or cables were changed
  - Channel by channel checks on scope revealed no problems
  - Will perform check on D0 jet cross sections



Other D0 News



- Halo rate anomalies
  - Feb 13th: One glitch at 10:00 & two around 13:30 (five minutes apart) in pbar halo which tripped some Muon MDT HV channels



- Beam position stable
  - Within 0.5 mm from center

Plans for Upcoming Week

- New Trigger List: v10.20
  - Remove min bias on muon scintillator trigger
    - Excellent rejection at L2/L3 to remove cosmics
  - New triggers with L3 Muon filtering
  - Extend L1 CAL trigger from 2.4 to 3.2 in eta
- No known major problems
  - A few minor jobs pending access opportunity
    - Tracking Trigger & FPD Commissioning
    - Noisy Calorimeter tower due to SCA daughter card
- Will continue to do post-shutdown system checkouts to validate trigger & data integrity